

REMARKS

Claims 1 to 9, 12, and 14 to 24 are pending in this application.¹ Of these, claims 1 and 16 are independent. Favorable reconsideration and further examination are respectfully requested.

The Office Action rejected the claims as follows:

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al. JP 05343674, in view of Hsu 5,538,909.

Fukushima et al. discloses a method of forming an LDD transistor including forming a gate dielectric (8) and gate electrode (10) on a planar substrate (2), etching a sloping sidewalls in the substrate using the gate structure as a mask, doping the source and drain regions at a first angle, and doping the LDD regions at a second angle, wherein the first angle is greater than the second angle (see figs 6 and abstract).

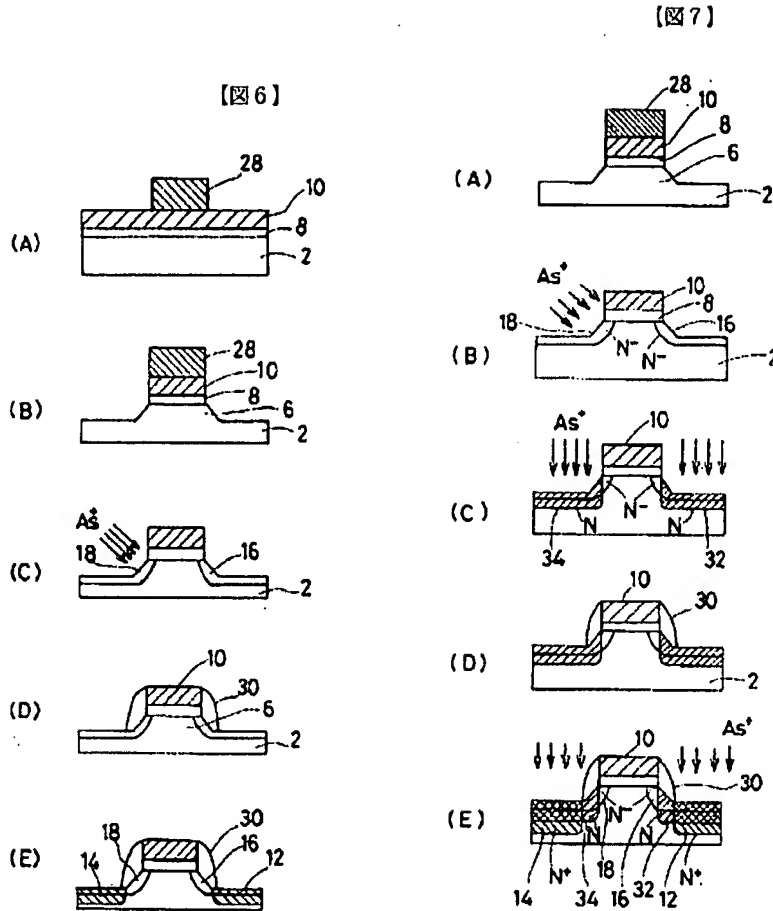
Fukushima et al. does teach doping through sidewall spacers to form the LDD regions.

Hsu teaches doping LDD regions (38) by doping through sidewall spacers using an angled implantation (see fig. 3E and related text).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Fukushima et al. as taught by Hsu, because to would allow for better control of the channel width.

In response, we note that JP05343674 describes forming the angled source/drain regions 16, 18 *before* forming spacers over those regions. For example, Figs. 6 and 7 of JP05343674 (below) show formation of regions 16, 18.

¹ The Examiner is urged to independently confirm this recitation of the pending claims.



As is clear from Figs. 6C and 7B, regions 16, 18 are formed prior to formation of spacers 30, which are depicted in subsequent Figs. 6D and 7D, respectively. Based on Figs. 6 and 7 of JP05343674², it appears that the spacers used in JP05343674 are used to mask LDD regions during perpendicular implantation of the source and drain regions.

As indicated in the excerpt above, Hsu was cited for its disclosure of performing doping through spacers 47 (see, e.g., Figs. 3E and 4D of Hsu). It was said in the Office Action that it

² The undersigned is not fluent in Japanese and, therefore, is making an assumption based on the English-language abstract and figures.

would have been "obvious...to modify Fukushima et al. [JP05343674] as taught by Hsu, because to do so would allow for better control of the channel width". We disagree.

More specifically, it is our position that there would not have been motivation to implant dopant through the spacers of JP05343674 as described in Hsu. We believe this to be the case because, in JP05343674, the spacers are already in place when the LDD region is formed and it appears that the purpose of the spacers in JP05343674 is to prevent, not allow, implantation. In other words, it appears from the figures of JP05343674 that the spacers are used to prevent further implantation. Accordingly, if the spacers in JP05343674 were modified to allow implantation, as suggested in Hsu, the resulting structure may be adversely affected.

For at least the foregoing reasons, we submit that it would not be proper to combine JP05343674 with Hsu in the manner suggested in the Office Action. Consequently, we believe that the rejection over JP05343674 and Hsu is improper and should be withdrawn. Furthermore, we note that we have amended claims 1 and 16 to emphasize that our dopant implantation occurs after formation of the spacers.

Dependent claims are also believed to define patentable features. Each dependent claim partakes of the novelty of its corresponding independent claim and, as such, each has not been discussed specifically herein.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or

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Serial No. : 10/579,487
Filed : May 16, 2006
Page : 11 of 11

Attorney's Docket No.: 14603-020US1
Client's Ref. No.: P2003,0802 US N

other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, we respectfully submit that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

The undersigned attorney can be reached at the address shown below. All telephone calls should be directed to the undersigned at 617-521-7896.

Please apply any deficiency in fees or credit any overpayment to Deposit Account 06-1050 referencing Attorney Docket No. 14603-020US1.

Respectfully submitted,

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Date: _____

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